



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/560,484

12/12/2005

Claudio Gini

G124-223 US

3110

21706 7590 04/02/2008

NOTARO AND MICHALOS
100 DUTCH HILL ROAD
SUITE 110
ORANGEBURG, NY 10962-2100

EXAMINER

FREEMAN, JOHN D

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,484	Applicant(s) GINI, CLAUDIO	
	Examiner John Freeman	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 30-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains legal phraseology (i.e. "said") and too many words (201). Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 39-40 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 39-40 disclose layers consisting of LLDPE modified with maleic anhydride. Claim 32, which 39-40 depend upon, discloses layers consisting of ethylene modified with maleic anhydride copolymers. Since maleic anhydride differs from maleic anhydride copolymer, claims 39-40 fail to further limit claim 32.
4. Claims 35-37, 39-44, 46-48 are objected to because of the following informalities: Applicant should replace each instance of "+" with "and".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 30-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Shepard et al. (EP 0800915).

7. Shepard et al. (hereafter Shepard) disclose a shrink film useful for packaging (col 4 ln 33-34). Fig. 2, reproduced below by the examiner, represents one embodiment of the film, which Shepard discusses on column 11 line 24 through column 12 line 10.

25	Nylon
23	Adhesive
21	Nylon
20	Adhesive
22	Nylon
24	Adhesive
26	Sealant

8. The nylon layers are amorphous (col 11 ln 28), but may be blended with other polyamides such as nylon 6, nylon 6,6, nylon 6,12, nylon 12 (col 9 ln 20-23). The adhesives may be anhydride-modified polyolefin, or EVA-based (ethylene vinyl acetate) (col 5 ln 36). The sealant layer may be LLDPE or an ionomer (col 12 ln 8-9). Using the first embodiment of Shepard's film (col 7 ln 45+) as a guide to determine the appropriate thickness percentage of each layer, would result in layers with thicknesses as claimed by Applicant. For example, the nylon layers constitute 5-20%, preferably 10%, of the overall thickness (col 8 ln 18), the adhesive layers constitute either 5-20% or 10-40% of the overall thickness (col 9 ln 41-44), and the sealant layer constitutes 15-40%, preferably 30%, of the overall thickness (col 11 ln 11). As Shepard remains silent with regard to whether or not the polymers are crosslinked, the examiner takes the position that Shepard intends for the polymers to remain uncrosslinked.

Art Unit: 1794

9. The examiner takes the position that Shepard's film would satisfy Applicant's Young's modulus and moment force limitations found in claims 30-31, as Shepard's film mirrors Applicant's film. The nylon layers are inherently impermeable to gases.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al. (EP 0800915).

12. Shepard discloses a multilayer structure as previously described.

13. Shepard is silent with regard to the specific thicknesses claimed.

14. The ranges disclosed by Shepard overlap, however, with those claimed by Applicant. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

15. At the time of the invention, it would have been obvious to one of ordinary skill in the art to create layers with the claimed thicknesses through routine experimentation of Shepard's invention.

16. Claims 30-41, and 44-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US 6,110,600).

17. Applicant claims a multilayer shrink film.

Art Unit: 1794

18. Ramesh discloses a multilayer, heat-shrinkable packaging film (col 2 ln 51). Ramesh discloses an embodiment represented by Fig. 1, reproduced below by the examiner (col 16 ln 15+):

22	Polyamide
28	Polyolefin
26	Polyamide
32	Barrier
30	Polyolefin
24	Polyamide

19. The examiner notes Applicant's use of the inclusive term "comprising" when describing the film structure allows for layers not described by Applicant to be present in the structure.

20. The polyamide layers comprise aliphatic polyamide 12, amorphous copolyamide 6/12, or copolyamide 6/66 (col 4 ln 31-40, 59-64). The polyamide can comprise ionomers (col 12 ln 56) and blends of other polymers (col 12 ln 64), i.e. the polyamide be mixed with terionomers.

21. The polyolefin layers comprise ethylene/alpha-olefin copolymer, ethylene/unsaturated ester copolymer, ethylene/unsaturated acid copolymer, or mixtures thereof (col 4ln 15-29). Other examples of substances falling under the label "polyolefin" includes ionomers, ethylene/vinyl acetate copolymers, ethylene/methacrylic acid copolymers, and polyolefins modified by maleic anhydride (col 12 ln 23-28). Ramesh specifically teaches LLDPE as an ethylene/alpha-olefin copolymer (col 13 ln 21-24). Given that Applicant does not define the use of "plastomer", the examiner takes a broad interpretation that Ramesh's ethylene layer would function as a plastomer.

22. The thicknesses of the layers overlap with those percentages claimed by Applicant (col 15 ln 42-65). As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

23. As Ramesh's structure mirrors Applicant's structure, the examiner takes the position that the film inherently possesses the properties described in present claims 30 and 31.

24. Ramesh is silent with regard to layers corresponding to Applicant's layers A and B, and blends of polyamide 6/66, amorphous, and terionomer.

Art Unit: 1794

25. One of ordinary skill in the art would appreciate that polyamide films do not possess excellent moisture barrier properties. Extra layers of polyolefinic polymers would provide such moisture resistance properties. Furthermore, such polymers can be chosen to be heat-sealable. Ionomers and terionomers were well-known to possess such properties at the time of the invention. At the time of the invention, it would have been obvious to one of ordinary skill in the art to add layers of terionomer and ionomer to Ramesh's invention to improve moisture resistance of the packaging while maintaining its ability to heat-seal.

26. Ramesh clearly allows for blends of polyamide to be used for the polyamide layers. One of ordinary skill would appreciate that amorphous nylons possess better gas barrier properties than semi-crystalline polyamides. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use a blend of amorphous and semi-crystalline polyamides in Ramesh's packaging film to improve the gas barrier properties thereof.

27. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US 6,110,600) in view of Shibata et al. (US 4,429,079).

28. Ramesh discloses a multilayer packaging film, as previously described.

29. Ramesh is silent with regard to a layer of polyvinyl alcohol (PVA).

30. The use of PVA as a barrier layer was well-known in the art. For example, Shibata et al. disclose polyamides and polyvinyl alcohol possess similar in transparency, rigidity and gas-barrier properties advantageous for the application of food packaging (col 6 ln 33-40).

31. At the time of the invention, it would have recognized that PVA would be interchangeable with polyamide layers in packaging films such as Ramesh's film.

32. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US 6,110,600) in view of Shiiki et al. (US 6,245,437).

33. Ramesh discloses a multilayer packaging film, as previously described.

Art Unit: 1794

34. Ramesh is silent with regard to a layer of polyglycolic acid (PGA).

35. The use of PGA as a barrier layer was well-known in the art. For example, Shiiki et al. disclose PGA can be used in place of polyamide (col 2 ln 15-20). PGA has better temperature and humidity resistance (col 2 ln 22).

36. At the time of the invention, it would have been obvious to one of ordinary skill in the art to replace one of the polyamide layers of Ramesh with a layer of PGA to improve the temperature and humidity resistance of the packaging.

Claim Rejections - 35 USC § 112

37. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

38. Claims 30-48 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

39. Claim 30 describes the layers as being "non-crosslinked thermoplastic polymers" in line 2 of the claim. In later claims (e.g. claim 32), some of the layers constitute polymer classes that necessarily crosslinked, (e.g. ionomers, and terionomers). Therefore, it is unclear what definition of "crosslinked" Applicant intends.

40. Claim 30 also describes the polymers as being of "different natures" in line 3 of the claim. It is unclear whether Applicant intends to limit the polymers in some way with this term, or whether it merely describes later characterizations of the polymers.

41. The term "substantially higher" in line 5 of claim 30 is a relative term which renders the claim indefinite. The term "substantially higher" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how much higher the Young's modulus of the three layers must be for it to qualify as being "substantially higher" than the other layers' values.

Art Unit: 1794

42. The term "highly impermeable" in line 13 of claim 30 is a relative term which renders the claim indefinite. The term "highly impermeable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Applicant's attempt to modify "impermeable" leaves the term indefinite.

43. Claim 30 also uses the term "neutral plane" in line 16 of the claim. Claim 31 also uses the term in lines 3-4, 6, 8 of the claim. It is unclear what definition Applicant intends for said term.

44. Regarding claim 30, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 30 recites the broad recitation "impermeable to gases", and the claim also recites "especially oxygen and aqueous steam" which is the narrower statement of the range/limitation.

45. The term "substantially nil" in line 5 of claim 31 is a relative term which renders the claim indefinite. The term "substantially nil" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how much greater than zero the sum can be and still fall under the scope of the claim.

46. Claim 32 recites the limitation "the product" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim. It appears Applicant intends "the product" to relate to the "foodstuffs" of claim 30.

Art Unit: 1794

47. Claim 32 line 11 contains exclusive terminology (i.e., "consists of"), but then allows for the layer to exist "possibly with the addition of terionomers."

48. Claim 32 describes a "fourth barrier layer" in line 26 of the claim. As there is no third barrier layer mentioned in the claim, it is unclear if Applicant intends for another barrier layer to be present, or merely committed a typographical error. The examiner assumes the latter to be the case for the purpose of this Office Action.

49. Claim 32 discloses layer E consists of a polyamide selected from the group of polyamides given, or "alternatively, PVA or PGA can be used." The exclusive language "consists of" conflicts with the alternative terminology.

50. Claims 32 and 44 contain improperly constructed Markush groups: the groups correctly begin with "selected from" phraseology, but each element of the group is separated by "or" thus making the group unclear.

51. Claims 33-38, 42-43, and 45-48 improperly describe the polymers by using "selected from" terminology to described only one element (e.g. "[layer C] consists of a polyamide polymer selected from among polyamides PA 6/66"). It is unclear whether Applicant intends by such phrasing.

Conclusion

52. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vicik ('945), Shiiki ('437), Hofmeister ('846), Howells ('041), Musco ('123), Schell ('816), Schiffmann ('821), and Douglas ('592) all disclose multilayer structures comprising polyamides.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman
Examiner
Art Unit 1794

/J. F./
Examiner, Art Unit 1794

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1794